

### **REMARKS**

Applicant respectfully requests reconsideration and allowance of the subject application in view of the foregoing amendments and the following remarks.

Claims 1, 2, 5-8, 10, 12, 13, 15, 16, 18, 19, 21-27, 30-32, 35-38, 40, 42, 45, 46, 48, 49, and 51-59 are pending in the application, with claims 1, 12, 16, 23, 25, 31, 42, 46, 53, and 55 being independent. Applicant cancels claims 3, 4, 14, 33, and 34 without prejudice, waiver, or disclaimer of the subject matter. Applicant amends claims 1, 12, 13, 16, 23-25, 27, 31, 42, 46, 53, and 55 to further clarify features of the claimed subject matter. Applicant adds claims 56-59 to further clarify features of the claimed subject matter. The original specification and drawings support these claim amendments and additions at least at page 3, lines 16-21; page 6, lines 2-3 and 11-12; page 13, lines 12-17; page 18, lines 11-12; page 22, lines 5-8; page 24, line 24-page 25, line 2 . These revisions introduce no new matter.

Applicant's amendments and remarks after Final are appropriate under 37 C.F.R. §1.116 because they address the Office's remarks in the Final Action, and thus could not have been presented earlier. In addition, the amendments and remarks should be entered to place the application in better form for appeal.

### **Claim Rejections 35 U.S.C. §103 A., B., C., and D.**

**A. Claims 1-8, 10, 31-38, and 40 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,734,110 to Marconcini (hereinafter "Marconcini") in view of U.S. Patent Application Publication No. 2002/0112162 to Cocotis et al (hereinafter "Cocotis").** Applicant respectfully traverses the rejection.

### Independent Claim 1

Without conceding the propriety of the rejection and in the interest of expediting prosecution of the application, **independent claim 1** is amended as proposed during the interview and is believed to be in condition for allowance.

**Independent claim 1** recites a method implemented on a supplemental television content server by a processor configured to execute instructions that, when executed by the processor, directs the supplemental television content server to perform acts comprising:

- identifying at least a first portion of files in an application as belonging to at least one cluster, wherein the application is a supplemental television content application comprising files carrying code and associated objects; wherein the cluster is a grouping of files;

- determining a cluster signature for each cluster;

- developing *an expression that includes the location of the cluster signature*, and

- storing the expression in a start file, wherein the start file carries application run parameters and references an application boot file to start execution of the application;*

- wherein a second portion of the files comprises a web page and determining a signature for each web page by determining at least one of:

- developing a link to the signature and storing the link in the web page, or

- storing the signature in the web page.

Applicant respectfully submits that no such method is disclosed, taught, or suggested by Marconcini and/or Cocotis, alone or in combination.

Maroconici is directed toward “[a] method of securely providing data to a user's system over a broadcast infrastructure” (Abstract). Applicant agrees with the Office that “Marconcini is unclear on determining a signature for a webpage” (Office Action, page 7).

Cocotis is directed toward a system in which “[e]ach content file stored on the server is cryptographically registered and such registration information is stored on the server along with

the corresponding file name. [In Cocotis] a user is provided with a second (e.g., public) key corresponding to a first (e.g., private) key used to cryptographically register the content files” (Abstract). Cocotis discusses “techniques of generating and validating digital signatures ... when utilizing RSA or DSA digital signature techniques” (paragraph 0032).

However, Applicant has searched and failed to find any reference to a start file in Marconocini or Cocotis. As discussed during the interview Marconcini and/or Cocotis, alone or in combination do not disclose, teach, or suggest “*an expression that includes the location of the cluster signature, and storing the expression in a start file, wherein the start file carries application run parameters and references an application boot file to start execution of the application,*” as recited in Applicant’s amended claim 1.

Accordingly, Applicant respectfully requests withdrawal of the §103 rejection.

### Independent Claim 31

Without conceding the propriety of the rejection and in the interest of expediting prosecution of the application, **independent claim 31** is amended and is believed to be in condition for allowance.

**Independent claim 31** recites one or more computer readable media having stored thereon a plurality of instructions that, when executed by at least one processor, causes the processor to perform acts comprising:

identifying at least a first portion of supplemental television content application files in at least one cluster, wherein a supplemental television content application comprises *a start file carrying application run parameters and referencing an application boot file to start execution of the supplemental television content application;*

determining a cluster signature for each cluster;

developing *an expression that includes the location of the signature*, wherein a second portion of the files comprises a web page and further comprising determining a signature for each web page by determining at least one of:

developing a link to the signature and storing the link in the web page; or

storing the signature in the web page; and

*storing at least one of expressions or a link to the expressions in the start file.*

Applicant respectfully submits that no such computer readable media is disclosed, taught, or suggested by Marconcini and/or Cocotis, alone or in combination for at least the same reasons as asserted above with respect to independent claim 1 and discussed during the interview.

Accordingly, Applicant respectfully requests withdrawal of the §103 rejection.

Applicant includes elements of **dependent claims 3 and 4** into independent claim 1, and thus, cancels dependent claims 3 and 4 without prejudice, waiver, or disclaimer of the subject matter. Accordingly, the rejections for claims 3 and 4 are now moot.

Applicant includes elements of **dependent claims 33 and 34** into independent claim 31, and thus, cancels dependent claims 33 and 34 without prejudice, waiver, or disclaimer of the subject matter. Accordingly, the rejections for claims 33 and 34 are now moot.

**Dependent claims 2, 5-8, 10, 32, 35-38, and 40** depend from one of independent claims 1 and 31, respectively, and thus, are allowable as depending from an allowable base claim. These claims are also patentable for their own recited features that, in combination with those recited in claims 1 and 31 are not disclosed, taught, or suggested by Marconcini and/or Cocotis, alone or in combination.

Accordingly, Applicant respectfully requests withdrawal of the §103 rejections.

B. Claims 12, 15, 16, 18, 19, 21-25, 30, 42, 45, 46, 48-49, and 51-55 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,734,110 to Marconcini (hereinafter “Marconcini”) in view of U.S. Patent Application Publication No. 2002/0112162 to Cocotis et al (hereinafter “Cocotis”) and further in view of U.S. Patent No. 6,209,091 to Sudia (hereinafter “Sudia”). Applicant respectfully traverses the rejection.

#### Independent Claim 12

Without conceding the propriety of the rejection and in the interest of expediting prosecution of the application, **independent claim 12** is amended and is believed to be in condition for allowance.

**Independent claim 12** recites a method implemented on a supplemental television content server by a processor configured to execute instructions that, when executed by the processor, directs the supplemental television content server to perform acts comprising:

- identifying a first portion of files that together compose a dynamic web page, wherein the dynamic web page is a *supplemental television content delivered through an interconnecting channel separate from a channel used to deliver broadcast media* and a content of the dynamic web page changes during a time interval;

- determining a signature for the dynamic web page;

- storing one of a link to the signature in the dynamic web page, or the signature in the dynamic web page; and

- developing an expression that includes signature information, and *storing the expression in the dynamic web page as extensible markup language (XML) metadata*,

- wherein the expression comprises at least one of security policy information data or delegate data,

- wherein the security policy information data comprises at least one of specifying a location of a permission request file that indicates allowed and disallowed operations for the application and defining a location of a privacy statement,

wherein the delegate data includes identities and constraints of a delegate, and  
wherein a delegate is an entity that is authorized to sign portions of the application in addition to a main signer.

Applicant respectfully submits that no such method is disclosed, taught, or suggested by Marconcini, Cocotis, and/or Sudia, alone or in combination.

Sudia is directed toward “[a] multi-step signing system and method uses multiple signing devices to affix a single signature which can be verified using a single public verification key” (Abstract). Sudia discusses “a robust and easy-to-use mechanism in which authorizing agents can temporarily delegate their authorizing capability” (column 2, lines 49-51).

However, Applicant has searched and failed to find a disclosure, teaching, or suggestion in Marconcini, Cocotis, and/or Sudia, alone or in combination of “*supplemental television content delivered through an **interconnecting channel separate from a channel used to deliver broadcast media**,*” as recited in Applicant’s amended claim 12.

Cocotis discusses “Hypertext Markup Language (HTML)” (paragraph 13); however, Cocotis does not discuss extensible markup language (XML). Marconcini and Sudia do not compensate for this deficiency in Cocotis. Accordingly, Marconcini, Cocotis, and/or Sudia, alone or in combination do not disclose, teach, or suggest “*storing the expression in the dynamic web page as extensible markup language (XML) metadata,*” as recited in Applicant’s amended claim 12.

Accordingly, Applicant respectfully requests withdrawal of the §103 rejection.

## Independent Claim 16

Without conceding the propriety of the rejection and in the interest of expediting prosecution of the application, **independent claim 16** is amended and is believed to be in condition for allowance.

**Independent claim 16** recites a method implemented on a supplemental television content server by a processor configured to execute instructions that, when executed by the processor, directs the supplemental television content server to perform acts comprising:

- executing a supplemental television content application comprising files, wherein the files carry code and assorted objects;

- determining if the files are arranged in a cluster, wherein a cluster is a subset of the files grouped through logical organization, and determining if any of the files are arranged in clusters comprises referencing a security information resource file contained within a start file, wherein the security information resource file comprises a cluster information metadata expression indicating the files that compose the cluster, wherein a signature location metadata expression indicating a location of a signature for the cluster;

- determining if the application start file has a record that includes one of a reference to an expression having a location of the signature, and the expression, wherein the start file carries application run parameters and references an application boot file to start execution of the supplemental television content application;***

- reading from the expression the location of a file having a signature of a cluster for each cluster, wherein the reading operation further comprises reading whether there are any delegates for any of the clusters, and determining if a signature is valid based on the delegates wherein a delegate is an entity that is authorized to sign portions of the application in addition to a main signer;

- determining if the signatures can be verified;

- determining the identify of all clusters that comprise the application;

- determining a delegate name and constraints imposed on the authority of the delegate, wherein the constraints comprise time boundaries; and

verifying the integrity of the files in the cluster by operations including verifying the signature.

Applicant respectfully submits that no such method is disclosed, taught, or suggested by Marconcini, Cocotis, and/or Sudia, alone or in combination for at least the same reasons as asserted above with respect to independent claim 1 and discussed during the interview.

Accordingly, Applicant respectfully requests withdrawal of the §103 rejection.

### Independent Claim 23

Without conceding the propriety of the rejection and in the interest of expediting prosecution of the application, **independent claim 23** is amended as proposed during the interview and is believed to be in condition for allowance.

**Independent claim 23** recites a method implemented on a supplemental television content server by a processor configured to execute instructions that, when executed by the processor, directs the supplemental television content server to perform acts comprising:

executing a supplemental television content application comprising files, wherein the files carry code and assorted objects;  
determining if the files compose web pages; and  
if the files compose web pages, then  
for each of the web pages, *decoding the web page to determine if the web page has extensible markup language (XML) metadata comprising an <AppSecurityInfo> element indicating one of a link to a digital signature and a digital signature,*  
reading the signature, and  
verifying the signature,  
if any of the web pages lack the link to a digital signature, lack the digital signature, or the signatures is not verified then warn a user that a file has not been signed, warn the user that the signature is not valid, reject the file, or restrict access by the web page to system resources.



Applicant respectfully submits that no such method is disclosed, taught, or suggested by Marconcini, Cocotis, and/or Sudia, alone or in combination for at least the same reasons as asserted above with respect to independent claim 12 and discussed during the interview.

Applicant explains above with respect to independent claim 12 why Marconcini, Cocotis, and Sudia lack a disclosure, teaching, or suggestion of extensible markup language. As discussed during the interview, Applicant respectfully asserts that Marconcini, Cocotis, and/or Sudia, alone or in combination fail to disclose, teach, or suggest “*decoding the web page to determine if the web page has extensible markup language (XML) metadata comprising an <AppSecurityInfo> element indicating one of a link to a digital signature and a digital signature,*” as recited in Applicant’s amended claim 23.

Accordingly, Applicant respectfully requests withdrawal of the §103 rejection.

#### Independent Claim 25

Without conceding the propriety of the rejection and in the interest of expediting prosecution of the application, **independent claim 25** is amended and is believed to be in condition for allowance.

**Independent claim 25** recites a supplemental television content architecture comprising:

- an application comprising a collection of files, wherein the application is a supplemental television application delivered through an interconnecting channel separate from a channel used to deliver broadcast media;

- a cluster of the files, wherein the cluster is a subset of the files grouped through a logical organization,

- the files comprising:

- a signature file comprising a cluster signature, a reference to the files in the cluster, and a time version information;

- a security information resource file comprising a cluster information metadata, a signature location metadata, and a delegate metadata; and

*a start file including a link to the security information resource file or the security information file, wherein the start file carries application run parameters and references an application boot file to start execution of the application,*  
wherein the signature location metadata describes a location of the signature file by a link,  
wherein the cluster signature includes a hash code of each of the files comprising the cluster and a digital signature for signing the hash code of each of the files,  
wherein the time version information describes the version of the signature file as a function of the files in the cluster, and  
wherein the delegate metadata comprises identity and constraints of a delegate.

Applicant respectfully submits that no such architecture is disclosed, taught, or suggested by Marconcini, Cocotis, and/or Sudia, alone or in combination for at least the same reasons as asserted above with respect to independent claim 1 and discussed during the interview.

Accordingly, Applicant respectfully requests withdrawal of the §103 rejection.

#### Independent Claim 42

Without conceding the propriety of the rejection and in the interest of expediting prosecution of the application, **independent claim 42** is amended and is believed to be in condition for allowance.

**Independent claim 42** recites one or more computer readable media having stored thereon a plurality of instructions that, when executed by at least one processor, causes the processor to perform acts comprising:

identifying a first portion of supplemental television content application files that together compose a dynamic web page, wherein the *dynamic web page is a supplemental television content delivered through an interconnecting channel separate from a channel used to deliver broadcast media and a content of the dynamic web page changes during a time interval;*  
determining a signature for the dynamic web page;

storing one of a link to the signature in the dynamic web page,  
or the signature in the dynamic web page; and  
developing an expression that includes signature information,  
and ***storing the expression in the dynamic web page as extensible  
markup language (XML) metadata,***  
wherein the expression comprises at least one of security  
policy information data or delegate data,  
wherein the security policy information data comprises at least  
one of specifying a location of a permission request file that  
indicates allowed and disallowed operations for the application and  
defining a location of a privacy statement,  
wherein the delegate data includes identities and constraints of  
a delegate, and  
wherein a delegate is an entity that is authorized to sign  
portions of the application in addition to a main signer.

Applicant respectfully submits that no such computer readable media is disclosed, taught, or suggested by Marconcini, Cocotis, and/or Sudia, alone or in combination for at least the same reasons as asserted above with respect to independent claim 12 and discussed during the interview.

As discussed above with respect to independent claim 12, Marconcini, Cocotis, and/or Sudia, alone or in combination do not disclose “*supplemental television content delivered through an **interconnecting channel separate from a channel used to deliver broadcast media,***” as recited in Applicant’s amended claim 42.

Furthermore, Applicant has searched and failed to find any disclosure, teaching, or suggestion in Marconocini, Cocotis, and/or Sudia, alone or in combination of a “***dynamic web page [that] is a supplemental television content delivered through an interconnecting channel separate from a channel used to deliver broadcast media and a content of the dynamic web page changes during a time interval,***” as recited in Applicant’s amended claim 42.

Marconcini, Cocotis, and/or Sudia, alone or in combination also do not disclose, teach, or suggest “*storing the expression in the dynamic web page as extensible markup language (XML) metadata*,” as recited in Applicant’s amended claim 42.

For at least the above reasons, Applicant respectfully requests withdrawal of the §103 rejection.

### Independent Claim 53

Without conceding the propriety of the rejection and in the interest of expediting prosecution of the application, **independent claim 53** is amended and is believed to be in condition for allowance.

**Independent claim 53** recites one or more computer readable media having stored thereon a plurality of instructions that, when executed by at least one processor, causes the processor to perform acts comprising:

- executing a supplemental television content application comprising files, wherein the files carry code and assorted objects;
- determining if supplemental television content application files compose web pages; and
- if the files compose web pages, then
  - for each of the web pages, decoding the web page file to determine if *the web page has an extensible markup language (XML) metadata comprising an <AppSecurityInfo> element indicating one of a link to a digital signature and a digital signature*,
  - reading the signature, and
  - verifying the signature,
  - if any of the web pages lack the link to a digital signature, lack the digital signature, or the signatures is not verified then warn a user that a file has not been signed, warn the user that the signature is not valid, reject the file, or restrict access by the web page to system resources.

Applicant respectfully submits that no such computer readable media is disclosed, taught, or suggested by Marconcini, Cocotis, and/or Sudia, alone or in combination for at least the same reasons as asserted above with respect to independent claim 23 and discussed during the interview.

Accordingly, Applicant respectfully requests withdrawal of the §103 rejection.

#### Independent Claim 55

Without conceding the propriety of the rejection and in the interest of expediting prosecution of the application, **independent claim 55** is amended as proposed during the interview and is believed to be in condition for allowance.

**Independent claim 55** recites a supplemental television content architecture comprising:

an application comprising a collection of files;

the files comprising:

*a supplemental television content delivered through an interconnecting channel separate from a channel used to deliver broadcast media;*

at least one of *a dynamic web page coded with a signature as extensible markup language (XML) metadata* or including a reverse linkage between an XML document and *a signature file coded with the signature by using a link rev= tag*; and

a dynamic web page coded with a security information resource file comprising a signature location metadata, and a delegate metadata,

wherein a content of the dynamic web page changes during a time interval;

wherein the signature is calculated from a hash code of the webpage each time the web page changes,

wherein the delegate metadata comprises an identity and constraints of a delegate.

Applicant respectfully submits that no such architecture is disclosed, taught, or suggested by Marconcini, Cocotis, and/or Sudia, alone or in combination.

As discussed above with respect to independent claim 12, Marconcini, Cocotis, and/or Sudia, alone or in combination do not disclose “*a supplemental television content delivered through an **interconnecting channel separate from a channel used to deliver broadcast media**,*” as recited in Applicant’s amended claim 55.

Applicant agrees with the Office that “Marconcini, Cocotis, and Sudia are unclear on a syntactical extension of an extensible markup language link” (Office Action, page 30). It follows that Marconcini, Cocotis, and/or Sudia, alone or in combination, do not disclose, teach, or suggest “*a dynamic web page coded with **a signature as extensible markup language (XML) metadata** or including a reverse linkage between an XML document and **a signature file coded with the signature by using a link rev= tag**,*” as recited in Applicant’s amended claim 55.

Accordingly, Applicant respectfully requests withdrawal of the §103 rejection.

**C. Claims 13 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,734,110 to Marconcini (hereinafter "Marconcini") in view of U.S. Patent Application Publication No. 2002/0112162 to Cocotis et al (hereinafter "Cocotis") in view of U.S. Patent No. 6,209,091 to Sudia (hereinafter "Sudia") and further in view of XML-Signature Syntax and Processing.** Applicant respectfully traverses the rejection.

**Dependent claims 13 and 27** depend from one of independent claims 12 and 25, and thus, are patentable as depending from an allowable base claim. These claims are also patentable for their own recited features that, in combination with those recited in claims 12 and 25 are not disclosed, taught, or suggested by Marconcini, Cocotis, Sudia, and/or XML-Signature Syntax and Processing, alone or in combination.

Applicant agrees with the Office that "[t]he combination of Marconcini, Cocotis, and Sudia are unclear on a syntactical extension of an extensible markup language link" (Office Action, page 30). The Office asserts that XML-Signature Syntax and Processing "show[s] a syntactical extension of markup language link with linkage between XML doc and signature (Office Action, page 30). XML-Signature Syntax and Processing discusses a "Signature, Detached [in which] [t]he signature is over content external to the Signature element, and can be identified via a URI or transform. Consequently, the signature is 'detached' from the content it signs" (page 64; pagination as embedded in document). In a list of references, XML-Signature Syntax and Processing mentions one reference entitled "XML Linking Language" without providing any explanation of how this relates to signatures (page 69; pagination as embedded in document). Applicant respectfully asserts that XML-Signature Syntax and Processing does not compensate for the acknowledged deficiencies in Marconcini, Cocotis, and Sudia because XML-Signature Syntax and Processing is also unclear on a syntactical extension of an extensible markup language link and in particular is unclear on a reverse link.

Applicant has searched and failed to find any disclosure, teaching, or suggestion in XML-Signature Syntax and Processing of "*a syntactical extension of an XML link element [which] provides **reverse linkage** between an XML document and the signature **by using a link rev=tag**,*" as recited in Applicant's amended claims 13 and 27. XML-Signature Syntax and Processing does not mention "reverse linkage" or "link rev=".

Accordingly, Applicant respectfully requests withdrawal of the §103 rejections.

**D. Claims 14 and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,734,110 to Marconcini (hereinafter "Marconcini") in view of U.S.**

**Patent Application Publication No. 2002/0112162 to Cocotis et al (hereinafter "Cocotis") in view of U.S. Patent No. 6,209,091 to Sudia (hereinafter "Sudia") and further in view of U.S. Patent Application Publication No. 2002/0120939 to Wall et al (hereinafter "Wall").** Applicant respectfully traverses the rejection.

Applicant includes elements of **dependent claim 14** into independent claim 12, and thus, cancels dependent claim 14 without prejudice, waiver, or disclaimer of the subject matter. Accordingly, the rejection of claim 14 is now moot.

**Dependent claim 26** depends from independent claim 25, and thus, is allowable as depending from an allowable base claim. Applicant explained above why amended claim 25 is not obvious in light of Marconcini, Cocotis, and/or Sudia. Wall does not compensate for this deficiency. This claim is also patentable for its own recited features that, in combination with those recited in claim 25 are not disclosed, taught, or suggested by Marconcini, Cocotis, Sudia, and/or Wall, alone or in combination.

Applicant respectfully submits that the cited references do not render the claimed subject matter obvious and that the claimed subject matter, is therefore, patentably distinguishable over the cited references. For all of these reasons, Applicant respectfully requests withdrawal of the §103(a) rejection of these claims.

### **New Claims**

Applicant adds **dependent claims 56-59** to further clarify features of the claimed subject matter. Claims 56-59 depend from one of claims 12, 25, 42, or 55, respectively, and thus, are allowable as depending from an allowable base claim, as well as for the additional features that they recite.



## **Conclusion**

For at least the foregoing reasons, claims 1, 2, 5-8, 10, 12, 13, 15, 16, 18, 19, 21-27, 30-32, 35-38, 40, 42, 45, 46, 48, 49, and 51-59 are in condition for allowance. Applicant respectfully requests reconsideration and withdrawal of the rejections and an early notice of allowance.

If any issue remains unresolved that would prevent allowance of this case, Applicant requests that the Examiner contact the undersigned attorney to resolve the issue.

Respectfully Submitted,  
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